

MIHAN et al.

Serial No. 09/937,780

MARKED UP VERSION OF AMENDED

Claims 1-3, 11, 12 and newly added 14 should read as follows:

1.(currently amended) A process for copolymerizing ethylene or propylene together with

one another or with other olefinically unsaturated compounds, which comprises carrying out in the polymerization in the presence of a catalyst system which comprises the following components:

- A) a complex of a transition metal with one or two substituted or unsubstituted 1,3,5-triazacyclohexane ligands ~~or corresponding ligands in which one or more of the ring nitrogen atoms are replaced by phosphorus or arsenic atoms~~, and
- B) if desired one or more activator compounds.

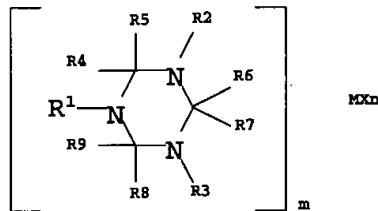
2.(currently amended) A process for copolymerizing ethylene or propylene together with

one another or with other olefinically unsaturated compounds at from 20 to 300°C under pressures from 5 to 4000 bar, which comprises the following steps:

- a) contacting a complex of a transition metal with one or two substituted or unsubstituted 1,3,5-triazacyclohexane ligands (A) with at least one activator compound (B),
- b) contacting the reaction product from step (a) with the olefinically unsaturated compounds under polymerization conditions.

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3.(currently amended) A process as claimed in claim 1, wherein the component (A) is a compound of the formula I



in which the variables have the following meanings:

M is a transition metal of groups 4 to 12 of the Periodic Table,

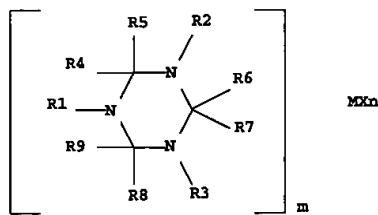
R¹-R⁹ are hydrogen or organosilicon or ~~-carbon~~ organic substituents having from 1 to 30 C atoms, it being possible for two geminal or vicinal radicals R¹ to R⁹ radicals also be connected to form a 5- or 6-membered ring, and it being possible, when m is 2, for an R¹-R⁹ radical of in each case one triazacyclohexane ring to form together with a substituents on the other triazacyclohexane ring a bridge between the two rings,

X is fluorine, chlorine, bromine, iodine, hydrogen, C₁-C₁₀-alkyl, C₆-C₁₅-aryl or alkylaryl having from 1 to 10 C atoms in the alkyl radical and from 6 to 20 C atoms in the aryl radical, trifluoroacetate, BF₄⁻, PF₆⁻ or aulky noncoordinating anions,

m is 1 or 2,

n is a number from 1 to 4 which corresponds to the oxidation state of the transition metal M
~~is employed as component (A).~~

11. (currently amended) A transition metal complex of the formula I as described in claim 3



I

in which:

M is a transition metal of groups 4 to 12 of the Periodic Table,
R¹-R⁹ are hydrogen or organosilicon or organic substituents having from 1 to 30 C atoms, it being possible for two geminal or vicinal radicals R¹ to R⁹ radicals also be connected to form a 5- or 6-membered ring, and it being possible, when m is 2, for an R¹-R⁹ radical of in each case one triazacyclohexane ring to form together with a substituents on the other triazacyclohexane ring a bridge between the two rings.
X is fluorine, chlorine, bromine, iodine, hydrogen, C₁-C₁₀-alkyl, C₆-C₁₅-aryl or alkylaryl having from 1 to 10 C atoms in the alkyl radical and from 6 to 20 C atoms in the aryl radical, trifluoroacetate, BF₄⁻, PF₆⁻ or bulky noncoordinating anions.

m is 1 or 2.

n is a number from 1 to 4 which corresponds to the oxidation state of the transition metal M,

wherein at least one of the radicals R¹, R² or R³ is different from the other radicals in this group.

R must be different

12.(currently amended) A transition metal complex of the formula I as defined in claim 3 11, wherein m is 2 and one radical R¹-R⁹ of one triazacyclohexane ring together with one of these substituents of the other triazacyclohexane ring forms a bridge between the two rings.

13.(canceled) ~~The use of a complex of a transition metal as defined in claim 1 in the copolymerisation of ethylene or propylene together or with other olefinically unsaturated compounds~~

14.(new) A process as claimed in claim 3, wherein m is 2 and one radical R¹-R⁹ of one triazacyclohexane ring together with one of these substituents of the other triazacyclohexane ring forms a bridge between the two rings.